

OFFICE OF ENTERPRISE TECHNOLOGY

**BUSINESS VALUE REPORT
SPECIAL EDITION
FISCAL YEARS 2014–16**



**DELIVERING
BUSINESS OUT-
COMES THROUGH
INVESTMENTS
IN PEOPLE AND
TECHNOLOGY.**



Greetings,

Since 2013 we have been providing our stakeholders a Business Value Report (BVR). These reports highlight significant OET accomplishments and bring awareness to the business value resulting from our strategic investments in information technology.

This is a special edition of OET's BVR to highlight the successful fulfillment of OET's Fiscal Years 2014–2016 Strategic Plan. We are proud of our partners and employees who worked hard to achieve the goals identified in our plan. As a result, we have modernized the County's technology infrastructure to provide a technology foundation that can support business innovation.

Of course, all of this was made possible through the continued support of the Board of Supervisors, County Management, and County leadership.

I invite you to view our recently published Fiscal Years 2017–2019 Strategic Plan to see the exciting plans for supporting the County in serving our citizens, customers, and employees.

Sincerely,



David L. Stevens
Chief Information Officer



Our path to success



A dedicated team of professionals



A relentless pursuit of delivering first-class service




A keen focus on delivering business value for Maricopa County every day

Program & Services Savings




\$1,830,183

Reduction in network maintenance costs through network modernization project



\$401,079

General Fund Operating savings for FY16



\$714,000

Annual savings created through Countywide VMWare Enterprise License Agreement



\$2,011,290

Savings for virtual server environment for Treasurer's Information System replacement



\$4,300,000

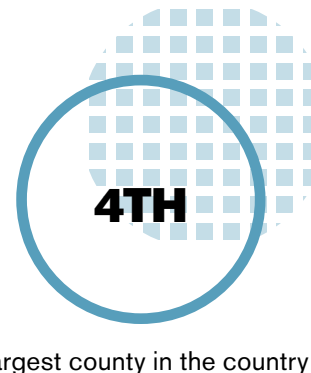
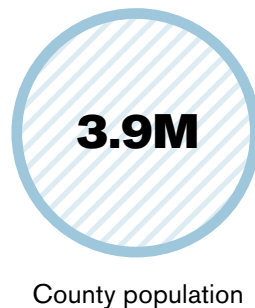
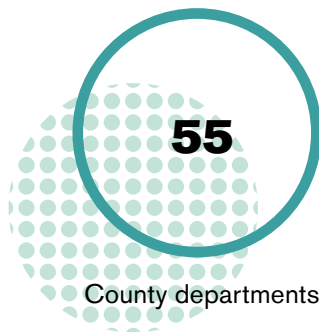
Savings over five years through implementation of 3PAR enterprise storage solution



\$4,003,511

Savings for three year renegotiated Microsoft Enterprise License Agreement

Maricopa County by the numbers



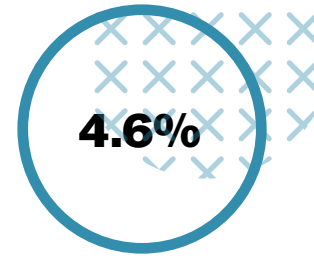
OET by the numbers



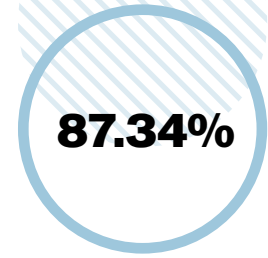
OET employees



Training investment
per employee

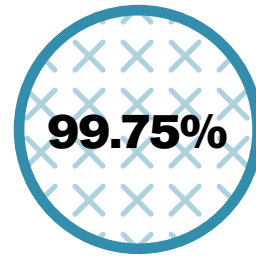


Reduction in General Fund
operating budget

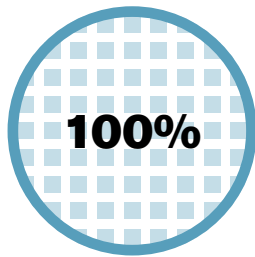


Reduction in
capital projects budget

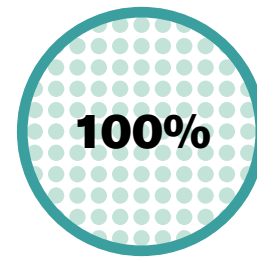
Reliability by the numbers



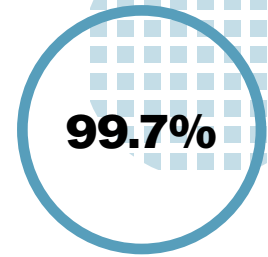
Public safety radio
network uptime



Data center uptime for
virtual servers

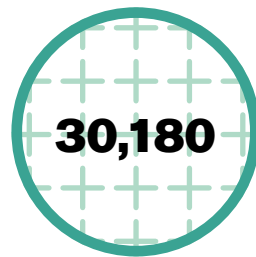


Uptime for phone and
UC (VoIP)



Network reliability – up from
92.36% in Fiscal Year 2015

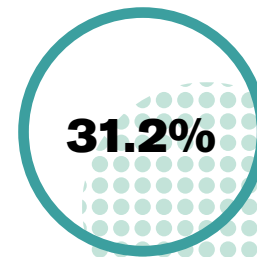
Customer Service Center by the numbers



Service Desk requests
and incidents



Average time to answer



First contact resolution
through the Service Desk



Average call duration

FISCAL YEARS 2013–2016 ACCOMPLISHMENTS



Appointment of
David L. Stevens as CIO
OCTOBER 17, 2012



New Web Portal
Launched for Enhanced
Regulatory Outreach
Program
JANUARY 7, 2013



NACo Award - Ryan
White Contract & Billing
Management
MAY 13, 2013



BOS Audio/Visual
Upgrade
JUNE 28, 2013



First Annual Business
Value Report published for
Fiscal Year 2013
JULY 29, 2013



Implementation of CHS
Electronic Health Record
AUGUST 15, 2013

OCTOBER 2012 – AUGUST 2013



BYOD Pilot Approved by
BOS
DECEMBER 12, 2012



Phase II OpenBooks
Transparency Portal
Launched
FEBRUARY 6, 2013



BOS Award of New Public
Safety Wireless Radio
System
JUNE 3, 2013



BYOD Adoption Approved
by BOS
JUNE 28, 2013



\$972,026
Fiscal Year 2013
Operational Savings
JUNE 30, 2013



\$4.3 million savings
Over 5 years 3PAR Enter-
prise Storage
JULY 30, 2013



Veterans Resource Portal
website Go Live
NOVEMBER 11, 2013



OET Fiscal Year 2014–
2016 Strategic Plan
Published
DECEMBER 6, 2013



Successful Launch of
New Case Management
System for Public Defense
Services
FEBRUARY 28, 2014



Tuition Reimbursement
Application Go Live
APRIL 18, 2014



Grant Management
System for Government
Relations
APRIL 30, 2014



\$233,606
Fiscal Year 2014
Operational Savings
JUNE 30, 2014

SEPTEMBER 2013 – JUNE 2014



Launch of new Cyber Se-
curity Portal
OCTOBER 1, 2013



Creation of OET Service
Catalog and Cost Model
NOVEMBER 22, 2013



BOS approval of IT Market
Study Salary Adjustments
JANUARY 24, 2014



MCSO HQ Building
Completion
MARCH 14, 2014

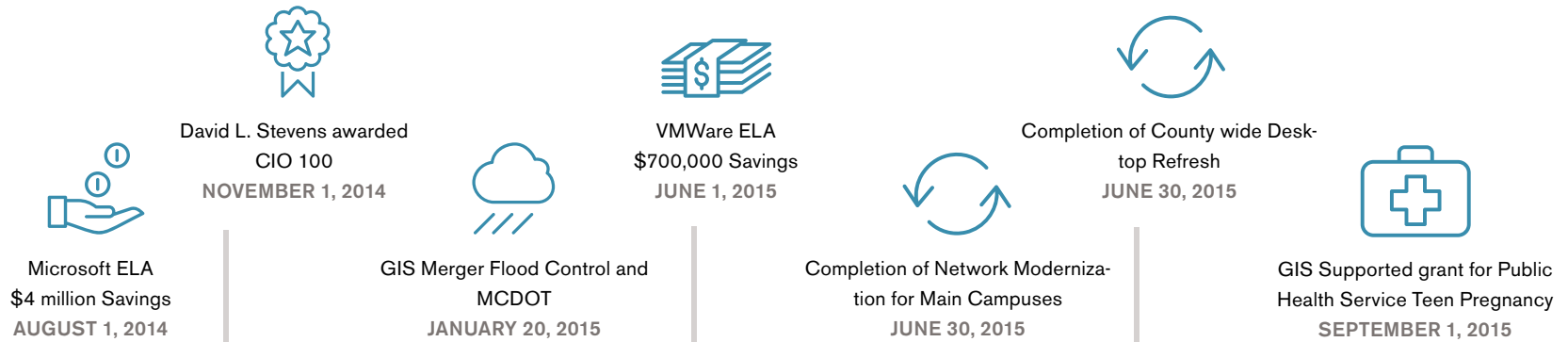


Clerk of Superior Court
One Number Project
MAY 9, 2014

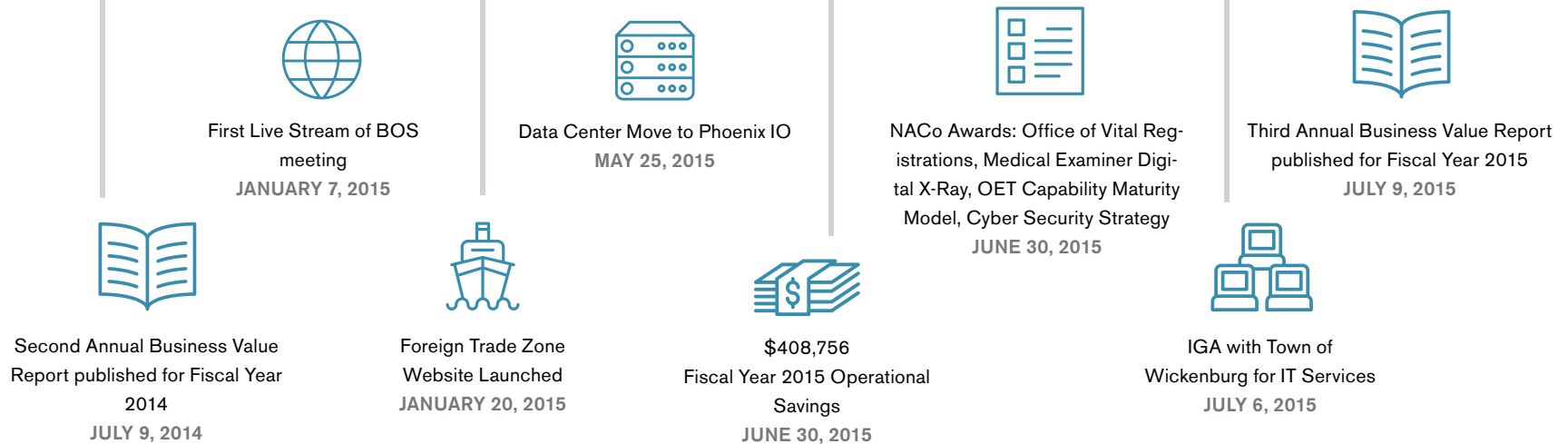


NACo Awards:
CHS Electronic
Health Record,
Cyber Security Portal,
GIS Program,
Veterans Resource Web-
site, &
No Lost Pets
JUNE 30, 2014

FISCAL YEARS 2013–2016 ACCOMPLISHMENTS



JULY 2014 – SEPTEMBER 2015





Risk Recycling website Request
Feature
DECEMBER 31, 2015



GIS Desert Peak Award
JANUARY 30, 2016



Virtual Desktop Infrastructure
Operational
APRIL 22, 2016



Completion of VoIP Rollout
County wide
JUNE 30, 2016



GIS Viewer for County Roads
MCDOT
DECEMBER 31, 2015



CISO Award Nominations – SC
Magazine & State Scoop
JANUARY 30, 2016



Migration of OnBase EDMS for
Justice Courts
FEBRUARY 16, 2016



Esri Honors SAG
JUNE 21, 2016



Go Live for ERP System
JULY 6, 2016

OCTOBER 2015 – JULY 2016



Implementation of Project Portfolio
Management Software
OCTOBER 26, 2015



Completion of Network Refresh for Remote Site Locations
(SL100)
JANUARY 8, 2016



BOS Award of New Content
Management System
APRIL 6, 2016



Completion of Department
Moves to Phoenix IO
JUNE 25, 2016



NACo Awards:
Data Center Colocation, GIS
Case Management, Palo Verde
Evacuation, Threat Management,
Mobile Restaurant Health
Ratings, Network Infrastructure
Modernization, & Risk Recycling
Website
JUNE 30, 2016



Clerk of the Board Website
Redesign
DECEMBER 31, 2015



OET Service Center
Go Live
FEBRUARY 16, 2016



Completion of BIX Room
Remediation
JUNE 24, 2016



Completion of Bandwidth
Upgrades
JUNE 30, 2016

PLAN FULFILLMENT

Improved Reliability

People, Service, & Solutions

Cyber Security

Improved Reliability Through Technology Foundation Improvements

OET's Fiscal Years 2014–2016 Strategic Plan centered on improving the technology foundation for the County, including significant infrastructure modernization and investment in cyber security. Building this technology foundation allows us to better serve all of Maricopa County.

New Public Safety Wireless Radio System

The Board of Supervisors (BOS) approved funding for the Public Safety Wireless Radio System in the amount of \$131,351,230 to replace and expand the current system. This system is used by the Maricopa County Sheriff's Office (MCSO), Adult and Juvenile Probation Departments, Department of Transportation, Animal Care and Control, and Flood Control, among others.

Business Value: Maricopa County will increase its radio sites by over 300%, creating greater coverage throughout the County, for law enforcement and first responders.

Completion of New Phone and Collaboration Platform

OET initiated a long-term strategy for providing County departments with improved communications that provide greater functionality and reduce overall cost. Functionality such as instant messaging, telephony, video conferencing, collaboration tools, and data sharing can now be integrated with non-real-time communication services such as integrated voice-mail, email, and facsimile.

Business Value: The \$29,086,200 investment replaced over 12,000 phones and implemented 200 conference room displays – optimizing business processes while reducing costs.





IMPROVED RELIABILITY

Data Center Colocation

OET, in partnership with several national leaders in technology, completed the move of several County data centers to an externally hosted, Tier 3 data center.

Business Values:

- The \$12,067,124 investment provides a 100% uptime guarantee for provided services, improves the availability and reliability of the County's data center resources, and decreases the total cost of ownership
- \$380,000 savings in sales tax through A.R.S. 41-1519
- Colocation for RDSA, Treasurer's Office, MCESA, ICJIS, Flood Control, Animal Care and Control, MCDOT, Assessor's Office, Human Services, and MCAO

Network Modernization

This initiative replaced end-of-life network infrastructure at most County facilities, including improvements to the telecom rooms serving those facilities (e.g., HVAC, electrical). These improvements were essential to creating highly reliable access to the systems and applications the County and citizens rely on, as well as providing necessary bandwidth to support access to new digital government services.

Business Values:

- The \$38,449,489 multi-year investment mitigated the risk of network services downtime affecting County departments, including Public Safety
- Completion of modernization at remote County sites enabled the retirement of the County's SL100 phone system (replaced with Voice over Internet Protocol phone system)
- Ensures systems and applications are highly reliable and available
- These improvements enable smaller, remote county sites to leverage new digital government solutions



BIX Room Remediation

This project remediated the BIX Room's risks, including redundant power and cooling systems that prevent unplanned outages to the critical County network infrastructure and telecommunications equipment. Installation of backup UPS power systems keep equipment running during a switch to backup power, to prevent a loss of power and hard shutdowns to equipment. Aesthetic improvements provide a cleaner environment for the effective maintenance of this critical equipment. Security improvements prevent unauthorized access and reduce the threat of accidental damage to equipment.

Business Values:

- The \$4,068,713 investment significantly mitigates risk for the County's critical telecommunications equipment
- Removal of devices resulted in 548,380 kWh power savings, which created an annual cost savings of \$56,044
- Reduction in cooling costs of \$41,165 annually
- Removal of excess circuits resulted in additional annual savings of \$138,000

Chambers Remodel

OET partnered with the Facilities Management Department to make improvements to the Chambers Building, including exterior enhancements, a formal building entry and reception area, cubicle reconfiguration, plus new carpet, paint, and furniture.

Business Values:

- A professional work environment to help acquire and retain employees
- Open floor plan that fosters collaboration among employees, contractors, and partners

IMPROVED RELIABILITY

Network Bandwidth Upgrades Countywide

This project delivers increased bandwidth to the majority of County sites, ensuring reliability of service and enabling the ability of digital government for those facilities. OET upgraded two Internet circuits from 200MB to 800MB, to accommodate the current utilization of circuits and the added demands of VoIP, electronic filing/on-base, GIS, video conferencing, and Unified Communications.

Business Values:

- \$1,040,000 investment provides diversity that improves reliability of service to each location
- Increased bandwidth supports delivery of digital government initiatives
- Completed the turn-down of 139 circuits resulting in annual savings of over \$80,000
- Increased bandwidth by over 439 Mb across 105 circuits countywide

Optical Network Services Ring

OET implemented a network modernization initiative that included the establishment of a carrier-grade Optical Network Services (ONS) ring that connects the County's major campuses and technology hubs.

Business Values:

- Redundant and highly reliable connections across the County's major campuses and hosted data centers
- Scalable bandwidth up to multiple 100 GBPS connections, providing additional capacity and to improve customer experience
- County departments can efficiently conduct business including Geographic Information Services, Electronic Document Management, and Unified Communications



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INFORMATION TECHNOLOGY AND BUSINESS ARE BECOMING INEXTRICABLY INTERWOVEN. I DON'T THINK ANYBODY CAN TALK MEANINGFULLY ABOUT ONE WITHOUT THE TALKING ABOUT THE OTHER.

—Bill Gates

PEOPLE, SERVICE, & SOLUTIONS

OET is committed to ensuring every dollar invested in information technology provides business value to the County through service improvement, service reliability, and customer satisfaction.



OET Service Center

OET is making strides in significantly improving the service that is provided to all customers by implementing a new Service Management System (*Axios Assyst*), which supports the adoption of most ITIL processes, including request and incident management.

Business Values:

- The new system will provide self-service functionality to improve communication around the status of service requests
- As a hosted solution, OET Service Center can be accessed with any mobile device
- OET's new Service Catalog will be supported within the new system for future online ordering of services structured within the new service lines
- Improved reporting will provide OET and departments a clearer understanding of service, transparency of costs, and improved metrics

PEOPLE, SERVICES, & SOLUTIONS

Migration of Maricopa County Justice Courts EDMS

In an effort to reduce costs and improve functionality, Maricopa County Justice Courts partnered with OET to migrate from its hosted OnBase solution to an on premise solution hosted within OET's high availability data center. Doing so provided a stable, scalable EDMS within OET's high availability data center.

Business Value: Savings amounting to over \$2,000,000.

Live Video Stream for Board of Supervisors Meetings

Board of Supervisors meetings are now available to watch live from anywhere an Internet connection is available. The meetings can also be recorded for later on-demand viewing.

Business Values:

- Eliminates travel time and costs, and lessens pollution
- Meetings are more accessible and convenient to all



OpenGov Transparency Portal

The County signed an agreement with OpenGov in June 2016 to provide cloud-based visualization and analysis for government financial and operational data. The intuitive design will allow the public and County departments to quickly and easily explore and understand complex financial and operational data resulting in improved transparency.

Business Values:

- Improved transparency for the public to build trust in County government
- Increased collaboration and accountability for program effectiveness and improvements

Enterprise Resource Planning (ERP) System

In partnership with the Department of Finance, Office of Management and Budget, and the Office of Procurement Services, the County implemented a County-wide CGI Advantage Government ERP system on July 6, 2016.

Business Values:

- The first integrated system that streamlines budgeting, financial management, and procurement business functions
- Replaced the 20 year old financial and budgeting system managed and supported by the County

Enhanced Regulatory Outreach Web Portal

A new web portal was created for Maricopa County's regulatory information, which allowed for transparency for businesses, other governments and citizens to get informed, and provide input on regulations before being formally adopted.

Business Values:

- Met legislative mandates from SB1598 and other Open Government and Open Meetings requirements
- Went live ahead of schedule in January 2013
- Citizens are able to better monitor and engage with the County



PEOPLE, SERVICES, & SOLUTIONS

Wickenburg IGA for IT Services

The Board of Supervisors (BOS) approved an Intergovernmental Agreement (IGA) with the Town of Wickenburg to provide IT services to augment and support the Town's IT staff. OET completed a detailed study of the Town's IT operations at no cost to the County.

This IGA meets the County's priorities of Government Operations and Regional Collaboration; it also meets OET's priorities of First-class Service and Smart Investments.

Medical Examiner Case Management System

OET partnered with the County's Medical Examiner to develop a business case and requirements for the replacement of its legacy system (implemented in 1999). The legacy system has many limitations and runs on unsupported hardware and software. Development of the business case assisted the Medical Examiner in securing needed funding to replace its system.

Business Value: The Medical Examiner secured funding for an improved and modern system that will integrate with their digital e-ray system and support electronic document management.

MCDOT GIS Viewer for County Roads

OET developed a Global Information Services (GIS) Viewer for visual and spatial analysis of all County owned roads, allowing the team to view any assets managed by MCDOT on any device. Over time this application will have a citizen-facing interface.

Business Value: Improved the accuracy of information and improved business decisions.

GIS – Public Health Services Health Promotion and Education

OET is providing GIS support to map data by zip codes and developing an interactive map of data to track teen births within Maricopa County. The project will be funded at \$750,000 (\$3,750,000 total) every year for five years and will provide targeted technical assistance to nonprofits and school districts.



Foreign Trade Zone Website Application

At the request of the Assistant County Manager, OET completed the first phase of a new web application to handle requests from local business developers to join County foreign trade zones, which provides benefits to both the local business and the County through tax advantages and job growth.

Business Values:

- Improved transparency of operations and access to County services
- Improved economic development

Veterans Resources Web Site

The Maricopa County Veterans Resource Portal provides consolidated information through an outward-facing, mobile friendly website to veterans and their families on programs, services and resources provided by Federal, Arizona State, Maricopa County, other local government agencies and community resources. The site was built for just \$15,800, and was unveiled on November 5, 2015 in celebration of Veterans Day.

Business Values:

- "The website is a great resource."
—AZ Department of Veterans Services
- 2,949 website visits in four months of operation

OET Service Catalog and Cost Model

The Service Catalog outlines all of OET's services within nine service lines, providing all departments with an understanding of each OET service, including an improved cost allocation methodology that promotes transparency for all IT costs.

Business Values:

- Project Investment: \$350,000
- The Service Catalog provides all County departments with improved transparency for technology services
- Departments have the information they need to improve decision making and collaboration on future investments





Desktop Replacement Program for Fiscal Years 2015–2017

OET worked with OMB, Finance, Office of Procurement Services, and other County IT Departments to replace aging desktops countywide, many of which were over five years old, and 50% of which were over eight years old.

Business Value: The \$7,570,601 investment for Fiscal Year 2015 reduced employee downtime and costs related to PC issues – replacing 5,086 desktops and 838 laptops. For Fiscal Year 2016, the \$2,052,172 investment replaced 1,276 desktops and 176 laptops. The replacement of 433 laptops, 52 high-end desktops, and 32 standard desktops are planned for Fiscal Year 2017.

Virtual Desktop Infrastructure (VDI)

With the completion of the VDI study in Fiscal Year 2015, the County is moving forward with a Personal Workspace Strategy that includes Virtual Desktops. VDI refers to the process of running a user desktop inside a virtual machine that lives on a server in the data center. It is a centralized computing model that yields many benefits: centralized computer management, user mobility/device independence, data/content security and loss prevention, software consolidation, and extended timeframes for hardware refreshes.

Business Values:

- The investment will support up to 2,000 users over a four year period, reducing PC and laptop failures that create employee downtime
- Both near-term and long-term cost reductions



New County Content Management System (CMS)

The County secured a new CMS to replace the legacy system implemented in 1995. The new CMS is a hosted solution from CivicPlus that will replace the County's Internet and Intranet, including a consistent look and feel to improve citizen engagement.

Business Value: The new CMS will provide the public with improved access through ease of navigation and streamlined content from their desktop or mobile device

Project Portfolio Management (PPM) – Innotas

The \$186,408 investment for the PPM tool provides OET with a robust solution to effectively plan and execute projects including project qualification, prioritization, and resource allocation.

Business Values:

- Consistent, automated, user friendly project reporting
- Reduced administrative overhead
- Visibility and transparency into project details on demand
- A structured environment for the recording, tracking and viewing of project data
- Project portfolio optimization

CYBER SECURITY

Further investment in securing the County's
technology infrastructure and information.

Improved Cyber Security Posture

A comprehensive Cyber Security Program that has strengthened the County's resilience to cyber-attacks and mitigated liability and risk. Program elements include:

- Security Operations – new positions and tools focused on cyber security threat mitigation efforts
- Cyber Assurance – established program to assess departments' strategic risk to reduce exposure
- Security Architecture – the "Defense in Depth" program validates that security controls follow best practices and standards
- Awareness and Collaboration – including a cyber security portal and targeted awareness campaigns
- Partnerships – strengthened local and national partnerships with NACo, MS-ISAC, CIS, FBI Infragard, and ACTRA

Business Values:

- Established a Capability Maturity model based on National Institute of Standards and Technology (NIST)

- Increased awareness of cyber risks and promoted behavior that reduces risk
- Reduced likelihood that the County will leak sensitive information
- Mitigated risk of malware using network activity behavioral analysis
- Simplified user logon access to resources and enhanced password security for County users
- Supported the remediation of vulnerabilities such as SQL injection, Cross Site Scripting and other common exploitation
- Remediated denial of service events by migrating DNS to a tier 1 Denial of Service protection provider
- Increased the ability to detect advanced persistent threats (APT) by configuring advanced threat analytics
- The ability to identify the root cause of cyber security events by providing deep packet inspection and network forensics capabilities
- Reduced the likelihood that threats can bypass the County's computer authentication procedures
- Developed an Incident Response Plan

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**IF EVERYONE IS MOVING FORWARD
TOGETHER, THEN SUCCESS
TAKES CARE OF ITSELF.**

–Henry Ford

AWARDS & RECOG- NITION

OET was pleased to support several Department projects that ultimately received recognition by the National Association of Counties (NACo).

NACo 2014

- Correctional Health Services (CHS)/OET Electronic Health Record (EHR)
- Cyber Security Portal
- Geographical Information Systems (GIS) Program
- Veterans Resource Portal Website
- No Lost Pets

NACo 2015

- Office of Vital Registration and OET Human Remains Release Form Automation
- Medical Examiner and OET Digital X-Ray
- OET Capability Maturity Model
- Cyber Security Strategy

NACo 2016

- Risk Recycling Website
- Network Infrastructure Modernization
- Environmental Health – Mobile Restaurant Ratings Tool
- Threat Management Program
- Palo Verde Evacuation
- GIS Case Management Workflow
- Data Center Colocation

AWARDS & RECOGNITION



Computerworld CIO 100 Award

The Computerworld Premier 100 spotlights 100 leaders from both the technology and business sides of companies for their exceptional technology leadership and innovative approaches to business challenges. OET was honored that our own CIO, David L. Stevens, was recognized in 2014 as a recipient of this award, placing Maricopa County in the top tier of information technology leadership amongst organizations including PayPal, Raytheon, GE, Avnet, and Intel Corporation. Mr. Stevens was one of only three state and local government CIOs chosen for this award.

Chief Information Security Officer Nominations: Security Congress (SC) Magazine's "Best CISO" and StateScoop Golden Government Executive

Security Congress Magazine is a global media outlet designed for Information Security Professionals. Mr. Michael Echols, Chief Information Security Officer (CISO) was only one of three CISOs nominated as the Best CISO for 2016. He was also nominated for the StateScoop Magazine's Golden Government Executive of the Year for 2016.



2016 Esri Honors SAG (Special Achievement in GIS)

Maricopa County expanded its already strong GIS program within many departments, supporting their business decisions, improving communications and workflows, and engaging citizens. While simultaneously leveraging EEAP to strengthen the County's internal IT infrastructure and plan for the move to a virtual environment, the County adopted a more comprehensive WebGIS approach, resulting in a new GIS map gallery, completion of plans for an Open Data Portal, and development/publication of numerous web applications for targeted business purposes.

OET'S MISSION IS TO PROVIDE PROVEN, INNOVATIVE, AND COST-EFFECTIVE TECHNOLOGY SOLUTIONS TO COUNTY DEPARTMENTS SO THEY MAY TRANSFORM THEIR OPERATIONS TO BEST SERVE THEIR CUSTOMERS AND CITIZENS.

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